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Pressures on school administrators emanate from such sources as television, teaching machines, and films. The administrator should be aware of the promises of the future and the best of the past, which can guide him in leadership. In the years to come, administrative operations, theory, and attitudes will have to change radically. Too many teachers consider new teaching devices as being unrelated to each other and of no significance in instruction. Changes in administrative patterns are needed in the logistics of instruction with trained personnel to support this instruction. The revision of the school budget is an essential but difficult part of these changes.

The school principal has a key leadership role and great curriculum responsibilities. The principal should acquire the functional knowledge of all elements of technological change. Adequate instructional support and high caliber service should be provided for teachers in order to acquaint them with the usefulness of technological changes.

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THEME of the YEAR: New Dimensions of Instruction
Vol. 7 No. 4

Professional Growth ..... for Administrators

Technology and the Teacher: An Administrative Briefing

- Implications and implementation of new learning media
- Technology's challenge to the school superintendent
- Actions in school district leadership

NOT LONG AGO it was standard practice for a foreign language class to be taught from one book. Today, language labs exist in which instruction comes from 15 or 20 books—plus tapes, headsets, motion pictures, overhead projectors, television and teaching machines.

Here is a dramatic example of technology's impact upon the schools. The lab is hardly recognizable as a cousin to the traditional read-and-recite classroom. In fact, it is more a materialization of a completely new concept. Here is a *learning system*—a complex of devices harnessed for a coordinated approach to audio, visual and lingual instruction.

A systems approach to instruction such as this assumes that satisfactory answers have been provided for certain basic questions: Can film teach? Can tape teach? Can television teach? "We know these newer media can teach," says C. Walter Stone of the U. S. Education Office. "Let's not go on proving the fact. Rather, let's find out what they can teach best, how they can be best employed."

To the minds of many educators, a related and oft-heard question—"Is technology a threat to the teacher?"—has also been answered, many times, with a resounding "No!" "The so-called 'threat' is just not an issue to teachers in our state," says Harold Dilts, chairman of Iowa's Committee on Newer Media. "The alert, professional teacher is eager and receptive to any advances that will help him reach his goal of providing a sound education for his pupils." If anything, Dilts adds—and countless other educators would echo him—the new technology is a refreshing challenge to teachers. (It may be reassuring to learn that in 1922 *Collier's* carried a story under the startling headline: **Enter the Teaching Film, Exit the Teacher.** *Collier's* died; but the teacher is still here.)

Nevertheless, the administrator still feels, at times, caught off balance. "We are like the Great Colossus," St. Paul School Supt. Forrest Conner told a convention. "We are standing with one foot on a rocket ship and the other on a lumber wagon."

One difficulty is that the speed with which instructional technology is advancing has taken away the leisurely interlude for considering new devices. Anaximander invented the globe in 580 B.C. It was not until the Renaissance that schools adopted it. Gutenberg's moveable type of the 1450's made abundant textbooks possible in the 1800's. A motion picture projector was exhibited at the NEA's 1912 convention. Three decades later schools began to give film a try. Today, new devices are invented, researched, publicized and marketed to the schools within very few years.

The pressures upon the school administrator are great.

Where does he begin? Perhaps with a state of mind. "Education is both an old and new frontier," reminds Supt. John H. Moehle of Carle Place, N.Y. "Teaching and learning are as old as civilization. Yet today we are on the threshold of new ideas, methods and techniques to impart academic excellence. I would classify myself as a frontiersman. I try to be an explorer."

Mindful of the best of the past, aware of the promises of the future—these must be the qualities of mind that guide today's school leaders.

Technology's Challenge:

The Sweeping Compound Theory of School Administration Has Got to Go

By JAMES D. FINN

● About The Author: The University of Southern California's Jim Finn is presently involved in a comprehensive study of the impact of technology upon the schools, the NEA's Technological Development Project.

They Don't Use sweeping compound any more—at least around computers. In the first place, every self-respecting computer installation is air conditioned. These places are immaculate. I don't know how they do it—probably electrostatic dust collection. One thing for sure—they don't use sweeping compound.

And what has this to do with the harrassed superintendent? More than meets the eye at first glance. For, from the largest to the smallest school district, county unit, college or any other educational organization, the boss man spends worry-time on sweeping compound while a world of computers is growing up outside the educational enclosure.

I exaggerate, of course. But the truth here outbalances poetry by at least ten to one. It's not that I am out of sympathy with the problems of "academical superintendence." I know all too well that there are boards to serve, service clubs to participate in, irate citizens' groups who do or do not want a school site on 14th street; there are teachers to hire, train and supervise; children to instruct, find space for, feed and speak to at graduation; there are buildings, custodians, nurses and budgets; there's even sweeping compound.

And there are the deeper problems. Making education more b a s i c. Throwing out baton-twirling in favor of a second year of nuclear physics; increasing the home work quotient to two and one-half times the Conant constant; moving to a phonics program in reading while simultaneously wondering why a woman named Wood achieves national publicity with a perceptual-motor skill speed method designed to eliminate the phonics block entirely; installing an objective of making every student from the third grade on suitable for entrance to Harvard (girls included) and suddenly discovering the dropout problem hasn't gone away, that homogeneous grouping has its own set of problems and that you'll never satisfy Mortimer Smith until you resign from the NEA and participate in an assassination plot against Bill Carr and Finis Engleman.

I hate to add another set of problems to this list, but superintendents in the years to come are going to have to change thought patterns, operations, administrative theory and attitudes in other directions, too. And these changes will have to be radical. The sweeping compound, buggy whip, powdered ink approach to the logistics of instruction has got to go now. It should have disappeared 20 years ago.

A revolution ignored!

The villain (I prefer hero) of this piece is the revolution in the technology of instruction which is about to hit American education. Most administrators do not see this revolution as a whole—as a movement—and yet that's what it is. The usual operation has been to buy language laboratories using NDEA funds without too much operational control of the teacher-language teaching process; to fiddle with television or pass by TV exhibits at AASA and acquire a sort of "passing" knowledge about educational television; to cluck knowingly at meetings where teaching machines are discussed and demonstrated, and maybe to requisition a few programed books just for kicks; to think about computers in education as being in the same category as scheduled trips to Venus by American Airlines; to make a career of not thinking about 8mm sound motion pictures, thermoplastic recording, classroom communicator devices and a host of other developments on the horizon of this technological revolution in instruction. The tendency (and, of course, there are distinguished exceptions) has been to think and act toward these events as if they were separate pieces, not related, and with no great significance for the larger enterprise of instruction.

A technology of instruction, of course, also refers to many more events than the development of hardware. A sophisticated technology is a man-machine system. On the man side, there are patterns of organization (Trump, *et al.*), concepts like team teaching, personnel questions such as what, exactly *is* the role of the teacher in a given technological situation, serious questions concerning the nature of learning, communication and control of the learning process and economic questions of the first magnitude. All of these must be fitted into the jig-saw map of the coming technological revolution.

Obviously, consideration of even a few of these developments would take pages when we have paragraphs. What, then, can be said that might turn the flow from the sweeping compound theory of the administration of instruction into something more closely related to events in the real world both inside and outside of education?

I submit for your consideration three crucial areas where changes in administrative patterns are needed now. These are: (1) the logistics of instruction, (2) instructional support personnel and (3) budgetary revision for instruction.

The logistics of instruction

The first, the logistics of instruction, is really a general classification, that includes the other two points. To understand this concept, it is probably best to turn to the present system of instructional support. Excluding textbooks, chalk and erasers and perhaps, here and there, pencils and paper, the instructional support of teachers and students in this country is pretty miserable when com-

pared to what it could and ought to be. In very few places do teachers have enough maps, charts and supplementary materials, let alone anything more complex.

However, the hard core of the advance of the coming technological revolution in instruction is the audio-visual movement which has been with, but not really a part of, the American instructional scene these last 30 years. And here the test can truly be applied. After 30 years of the 16mm sound motion picture projector and the availability – especially in the last 15–of a sufficient number of high quality educational films, we still do not have enough sound projectors and films in American schools to do ten per cent of the job that it is possible to do. The same could be said of many other audio-visual devices including tape recorders, slide projectors, tachistoscopic devices. The overhead transparency projector, for example–one of the great teaching devices, particularly at the secondary level–was developed in 1941. Twenty years later we have still school administrators who have never seen one, let alone used it; many of those who know about overheads think that one such device for a high school represents adequate logistical support of instruction, when, in fact, each school should have one per teaching station.

The logistics of instruction are by no means satisfied, however, with the provision of equipment and materials. In the case of the overhead projector, for example, we have the means of producing, at the school and local level, colored transparencies using overlay techniques. This involves support of another type which includes instructional planning and consultation with the teacher, art work and sufficient equipment and materials to produce the final product. If schools do not have enough of the basic equipment, they have, for all practical purposes, none of this second type of support. And this is but an example.

The point is that the currently accepted theory of school administration is not able to accommodate the means necessary to develop an adequate audio-visual program. Now, with the onrush of technological development, we are faced with an almost unlimited expansion of audio-visual type instructional materials and devices often referred to as the new technology of instruction or the "newer media." The record is clear, I think, that the administrative concepts have already been proved by 30 years' experience to be woefully inadequate to operate in this coming new environment. For, if teachers using overhead transparencies and filmstrips now need support they are not getting, what of the coming problems in connection with multiple language laboratories soon to have visual elements added to the audio? What about the materials for these? What about teacher education? operating service personnel? technical maintenance? What of the programing requirements for teaching machines? What of television, particularly the closed-circuit variety which requires support on a large scale? What of the possibilities of producing your own

ACTION REPORTS: Technology in the Schools

• **INSTRUCTIONAL LOGISTICS.** Superintendent Jefferson L. Garner provided support in good measure to get a new reading program underway in **Centinela Valley (Calif.) Union High School District.** Two years ago, he outlined the need for such a program to his board, told how it would fit into the high school program — and won the board's acceptance of the plan.

With new money, Garner hired two district reading coordinators and four reading teachers for each of the district's schools. He also provided the necessary in-service opportunities for the English faculties. But his support didn't stop here. He followed it through with the purchase of the latest and best devices available to equip fully two reading laboratories for each school. These aids include tachistoscopes, controlled readers, reading accelerators, shadowscopes, screens, timing clocks, tape recorders plus assorted printed materials—magazines, newspapers, paperback books, references.

An informal but indicative measure of the program's success: "Our school libraries are becoming more popular every day," teachers say.

• **TECHNOLOGY ON WHEELS.** If the pupils can't go to the language lab, send the lab to them. This is possible in **Arlington, Mass.**, where a mobile instruction van is being used to help provide instruction in French to 6th graders of five schools. The trailer, with its 18 student stations, is actually a not-so-little transistorized schoolhouse—a teaching, exercising, testing unit for either group or individualized learning from film, tape. slides and programed units.

• **INSTANT SCHEDULING.** It seems to happen every year. Working papers for the new budget are on the table. All is going well. Then a surprised board member looks up: "What in the world is this — $2,000 for scheduling!"

The big, intricate job of matching students with subjects with teachers with available periods takes money—funds that all superintendents and most boards would prefer to spend on instruction and instructional devices.

One evening last August, the new Valley Forge High School in **Parma, Ohio,** had its 1,154-pupil schedule turned out on data processing cards within two hours. The cost: ten times less than it would have been for paying staff members to do the job manually, reports Superintendent Paul W. Briggs.

The schedule was processed at the IBM data center in Cleveland on rented equipment. To prepare for the job, school aides spent just two and a half days punching pupil request cards and cards for the master schedule. These were then matched in the computer which evened classes for teachers of different sections of the same subjects; resolved conflicts automatically, or, if resolution were impossible, gave an electronic "cry for help;" saw to it that freak schedules (three study periods in a row, for example) were avoided.

"Schedule Night at IBM" was by no means Parma's debut to educational technology. Fourth graders here are learning Spanish via the Midwest Program on Airborne Television. Language labs and closed circuit television are in operation in Parma High. The new Valley Forge school, still incomplete and only partially occupied, will have seven well-equipped science labs when it goes into full operation in the fall.

8mm sound films for your schools?

Can you supply the materials, manpower and organization patterns to support your teachers in this type of instructional environment? Or are you going to stay with the one-overhead-to-a-school concept here, too? Actually, you can't. But what are you doing to prepare?

Support personnel

Enough of the general idea of the logistics of instruction. We can look briefly at the other two points.

First, the matter of personnel to support instruction. Again, using the audio-visual movement as a base, we have not, in American education, had ten per cent of the personnel we already need to develop adequate programs in the schools.

Many school districts have no audio-visual director as such; in others, this job is handled, in addition to other duties, by an administrative officer, a librarian or some other person not a specialist. This is a specialist job. The assignment of the duty to the assistant superintendent in charge of instruction, the district librarian or the chief custodian is a public admission that the audio-visual program is for the birds, not for the students and teachers.

At the school level, the situation is the same. There are many very large high schools in this country where the science or shop teacher or the part-time counselor also is given a period a day "to do something" about the audio-visual program in the school. If you don't want anything done, that's about the best way in the world to do it. I must add, at this point, a comment on the vicious practice of assigning boys with minus 80 IQ's to the A-V squad. The only other practice that might be worse would be to corral all the juvenile delinquents for the same job on the grounds that running projectors or aiding teachers would be a useful rehabilitation device.

We are now faced with the possibilities of quantities of more complicated equipment, quantities of more complicated materials and activities involving production and services not heretofore extended. These will require more personnel of a highly trained type than we are now using. The wise superintendent facing the future should begin right now to obtain good A-V personnel to man the program he should have had ten years ago and follow through with a build-up which will be necessary to move him into the future.

And by trained personnel I do not mean the assistant principal of Central High who is having problems and yet we want to find a spot for him. By trained personnel I mean an organization spot that has status and the salary to go with it so that the people in the department will not all be knocking each other over trying to become principal of the new junior high school instead of the head man in the instructional technology field.

At present, the sources of good people in this field are pretty thin, but they will open up when there are jobs—jobs with adequate status and salary. And this is an administrative problem—*your* problem.

Finally, the budget!

Finally, there's the matter of budget. Any administrator reading this far knows that what I have been talking about will probably break his school district—or at least prevent him from giving raises for the next decade. The new world of instructional technology is going to cost more money.

The tragedy of our situation today is that, for at least 100 years, we have not spent enough on instructional support. Its anybody's guess, but, for all instructional materials, the amount probably is somewhere between three and five per cent of the national total school budget. And this includes everything from paper towels for art classes to salt and pepper for home economics. This percentage should never have been that low. In the future it can't be that low unless the decision is to stay at the sweeping compound level.

There is only one solution to the problem of the logistics of instruction for the new era. That solution is more money. No one is suggesting that teachers be paid less or that other essential services be curtailed. Rather, a deliberate attempt should be made right now to double the budget percentage—with new money—devoted both to the materials of instruction and the capital outlay for instructional equipment. And that may not be enough. This, however, is where the superintendent must join the battle and begin.

The alternative, you see, is impossible. Because the alternative is to ask the school systems of this country to forget about the second industrial revolution through which the other sectors of our life are passing and to remain immersed in sweeping compound while someone else takes care of the computers. The catch to this is that, one of these days, there will be no one around to take care of the computers.

I do not envy you superintendents the set of problems I have presented to you. However, I fervently wish you luck in solving them along the directions I suggest. I hope you make the commitment to do so. It is probably more important for the future of our country than any of us realize.

• CORRECTION: Ira J. Singer of the Committee on Staff Utilization informs us that we erred last month in having him attribute a team teaching-closed circuit TV program to Newton, Mass. The community involved is Evanston, Ill. Our apologies to all parties concerned.

Further reading for the administrator...

• *The Two Cultures and the Scientific Revolution* by C. P. Snow. The text of Snow's oft-quoted address about the tragic gulf between men of the humanities and scientists. Cambridge University Press, 32 E. 57th St., New York 22, N.Y., 1959. 75¢.

• "The Tradition in the Iron Mask" by James D. Finn. An application of Snow's thesis to education. In *Audio-visual Instruction*, June, 1961. DAVI, 1201 16th St. N.W., Washington 6, D.C. Single copy 50¢.

• "Educational Technology—Boon or Bane?" by John Fritz. To this author, a possible bane. In *The School Review*, Autumn, 1960. University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill. Single copy $2.

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Vol. 7 • No. 4

Professional Growth ..... for Principals

THEME of the YEAR: New Dimensions of Instruction

Vol. 7 No. 4

Technology and the Teacher: For the Principal - Growth in the Middle

ABOUT THIS ISSUE . . .

Technology is discovering education. It is bringing fabulous new devices to teachers — and new challenges, new opportunities to principals.

These are discussed by James D. Finn, an authority in the field of instructional technology, in the remarks beginning on this page.

IN THESE DAYS of dietary supplements in cans and wheat germ sandwiches it is no doubt unAmerican to speak to principals about growth in the middle. We must not forget, however, the existence of middles other than the waist line. I refer directly to the situation in which the average school principal sweats it out—always in the middle.

The principal, when having a nightmare, may sometime see himself as the meat in the sandwich. There he is between central administration and teaching staff and about to be chewed into by the teeth of an ambiguous animal variously labeled, "school patron" or "irate taxpayer." In a word, there are problems with a principal's job—problems which don't go away and which come at him from two sides—in fact, from three.

There are, however, also great advantages in being the middle man. The principal is in a key position to affect directly the education of children. He has two directions in which to work. True, articles and institute speakers go on and on with admonitions of his leadership role and his curriculum responsibilities—while forgetting that he is also expected to keep dogs off the school grounds, maintain contact with sheriff and probation department and be occupied with quite a few peripheral educational chores. Nevertheless, these oft-repeated admonitions are no less true because oft-repeated: The principal *does* have a key leadership role; he *does* have great curriculum responsibilities.

The very existence of this Professional Growth series and the inclusion of a special program for principals within it means, of course, that the principal expects to grow on the job. The object of any in-service program for principals, then, is growth in the middle—the middle of the important chain from teacher to central administration.

Growing in this case means expansion of ability to handle these important leadership roles and curriculum responsibilities. It also means growing in knowledge about the rapidly changing educational enterprise. More important, perhaps, it means too that the principal must help his teachers improve and become more effective right at a time when the process and organization of instruction is beginning to undergo profound changes.

On the brink

American education stands on the brink of a technological revolution. The educational system, taken as a whole, is one of the last sectors of our society to be touched by this revolution which has so profoundly changed our way of life. This very lateness presents problems. In a sense, American education is like one of these new African "nations" suddenly invaded by the sewing machine, helicopter and a printing plant for books. The problem is that—figuratively speaking—we have no clothes, we do not think in terms of vertical-horizontal transportation, we can't read the language of this technological age. I can be accused of overstating the case. If there were a few hours available, we could argue it out. But for this moment, assume with me that, with some exceptions, the proposition is probably true.

It's difficult to describe this technological revolution in instruction. It can be done in terms of the developments which have been added to the audio-visual arsenal since about 1955. We have language laboratories, now being extended to include visual elements; television, particularly closed-circuit; teaching machines and programed learning; 8mm sound motion pictures that can be produced in your own school and various sophisticated means of programing group communications. The list could be longer. What is more important, there are even more complex possibilities around the corner.

— Ford Foundation photo by William R. Simmons

"Until a principal has lifted a projector, struggled with screen size, carefully thought out a series of transparencies and produced them and used them, he does not have a complete knowledge of the instrument . . . and the problems his teachers will have with it."

— James Finn

A list of devices and materials is not, however, a complete picture of the potential technology. There are advances in learning theory and the experimental psychology which follows it. There are changes in the patterns of school organization. There is a splitting off of roles formerly played by one teacher into fewer specialized functions, each carried out by a different teacher. There are qualitative changes in the curriculum. Again, the list could be longer.

Underline 'potential'

This potential revolution—and we should underline *potential*, as many American schools as yet are singularly unaffected—probably presents its most serious problems in the middle of the line from central office to teacher in the classroom. In a word, the heat is on the principal. Growth is demanded of him as well as of his teachers.

The central office has no doubt heard of these developments from superintendent's meetings, from memoranda from board members and so forth. And so inquiries and directives come down the line. Generally speaking, most central administrative officers are not specialists in something like programed learning. They can, however, become convinced it's a good idea and then attempt to get the ball rolling through the principal.

The teachers, on the other hand, may be (1) disturbed, (2) convinced that there is a plot involving machines dehumanizing little children, (3) buried in inertia, (4) so overworked that any new burden just has to be tossed aside, (5) completely frustrated by the lack of adequate and intelligent instructional support in the form of film and projection services so that they will, perhaps, pooh-pooh the whole idea of adding to these devices

This is the arena in which the principal must work. He must guide the introduction of a technological revolution into a relatively unsophisticated technological society — the school. He must do this in terms of the people he has, the administrative patterns and directives from above, the nature of the community and its philosophy, and the kind of students who attend—*all as they are now, not* as they *ought to be*.

Suggestions for a beginning

In the short space here, I can do no more than suggest where to begin. First, I would suggest that the principal, himself, must become *informed*. Now, informed is a relative term. Going back to the audio-visual base of the coming technological revolution, the simple awareness that, for example, an overhead projector exists and that it can project colored overlays of maps is not enough. This is *verbal* knowledge and, for the most part, the principal needs *functional* knowledge. Until a principal has lifted a projector, struggled with screen size, carefully thought out a series of transparencies and produced them and used them, he does not have a complete functional knowledge of the instrument and its uses and the problems his teachers will have with it. Generally speaking, and insofar as possible, such functional knowledge should be developed about all elements of the coming technological revolution.

It can be argued that this is too time-consuming and difficult. Principals, after all, do have other duties. Part of the trick is to combine functional experience with other duties. To follow the example through, use the overhead projector as an in-service education device for teachers

ACTION REPORTS

From West Bend, Wisconsin ... How Planning Helped Insure Language Lab's Success

FEW INNOVATIONS have had such wide and sudden acceptance by schoolmen as the foreign language laboratory. Between 1958 and 1961—thanks to NDEA funds — the number of labs used in high schools throughout the country jumped from 64 to over 2,500.

Here, indeed, is a whirlwind romance. Will the quick marriage between classroom and this particular bit of technology go on the rocks?

A few reports tell of disillusionment. But the consensus seems to be that if principal and teachers pave the way, language lab facilities can contribute much to better instruction. Consider, for example, the enthusiasm from West Bend (Wisc.) High School. Reports from Wiscon-

meetings. To move a little further into the newer media, why not try programing some school orientation materials for students, then try them out experimentally? Doing so, you would obtain some functional knowledge quickly, show leadership to your faculty, breathe a breath of experimentation into the school and, who knows, you might even improve school orientation.

I am assuming, in suggesting this, that the principal is enough of a professional to be able to develop enough information so that he can go ahead with such an activity. There's no excuse, it seems to me, in this day and age, for not knowing where to get hard-core information on overheads and the making of transparencies, for example. There are, I know, some principals whose main sources of professional information are confined only to state teachers magazines and local bulletins. This, of course, is obviously not true of people reading this material.

My position is simple. Good, hard-core information exists—and I oppose to this soft-core, descriptive material. Get to that information. It's part of your job to do so.

Secondly, provide your teachers with adequate instructional support. This may mean that you will have to badger the central administration for additional help and, probably, additional teaching materials of all kinds. You cannot expect teachers suddenly to start working, full-blown, with the complications of the new technological world if they haven't had enough tape recorders, projectors and the materials in quantity to use in them. Only in this way can teachers become convinced of the usefulness of such materials and skilled in their use. No teacher can be blamed for taking a dim view of new ideas if his school's administration of existing instructional materials is so poor that it is difficult, if not impossible, even to use a film easily and often.

This means you may have to fight to improve your school. Does it have adequate room-darkening and acoustical treatment? Is there too much red tape in obtaining even a map? Do teachers have to haul heavy equipment which doesn't work when it does get set up? Do you have an audio-visual coordinator in *name only*? Have you checked only to find that the "operators club" consists of the slowest (dumbest) students?

In a word, until you can develop adequate instructional support in your school for the more conventional technological devices, forget about the newer and more complicated ones. Your teachers won't be ready. And you couldn't mount an operation anyway.

Much has been said about educating teachers and the principals' role therein. I am saying that the best way to do this — or not have to do it — is to provide service of such a caliber that, as the good teachers become convinced, they will bring along the others. The fears, the inertia and the cynicism will go away—or, at least, much of it will disappear.

•About The Author: Dr. Finn of the University of California is past president of the Department of Audiovisual Instruction and presently the principal investigator of the NEA's Technological Development Project, a comprehensive study of the impact of technology upon the nation's schools.

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sin indicate that the lab is a time saver for both teachers and pupils; that students can now hear how they actually sound as well as hear and imitate native speakers; that students are now less self-conscious as they formerly were when speaking before classmates; that more able students can advance at a greater rate of speed; that all students seem considerably more interested in foreign language study.

West Bend's success with language lab teaching today was made possible by yesterday's planning. "Our administration and foreign language teachers very carefully considered the lab's uses and benefits before we made our decision to install these facilities," reports Fred LaLeike, language department chairman. Reporting for Principal Fred Schultz, now on leave for a State Department assignment in Iran, Mr. LaLeike adds: "We took trips to schools and colleges throughout the country which were using labs. We visited installations in Wisconsin and Illinois. We talked to teachers and students who were using this equipment. And we read everything we could find on the subject. Only then were we ready to say we wanted to go ahead."

The West Bend lab includes a master console and 25 listen-respond booths that were designed by the principal with Mr. LaLeike's help. Nineteen classes totaling 350 students in French, German, Spanish and Latin use the facilities in 25-minute periods three times a week. Some use of the lab has also been made by a steno-typing class. In addition, the facilities are available to a limited extent for work in speech correction and remedial reading.

Considerable savings in installing the lab were made possible by the school designing and constructing its own booths. Nevertheless, the equipment was initially expensive, says LaLeike. "But," he adds, "it was designed for long, hard use—and we have given it continual use with very little mechanical difficulty."

Has West Bend incurred any major problems? Yes, one, he concedes. "The preparation of tapes is a big drain on the instructors' time. But the results we are getting are worth the time. To hear a student exclaim into the microphone 'I've got it right!' goes a long way toward compensating for the hour spent making a 15-minute tape."

From Newark, New Jersey... How Filmstrip Approach Brought Reading Gains

Since 1954, Filmstrip has been *the* basic device for teaching beginning reading at Eighteenth Avenue School in Newark, N. J. During that time, the average reading level of 3rd graders here has advanced by almost a full year.

Details about the method—which is used in conjunction with texts and workshops—are reported in the current *Professional Growth for Teachers*. Behind that report lies a story of a principal alert to the promise of a technological aid for better teaching.

When Principal Michael Cabot introduced this innovation, Eighteenth

Avenue ranked near the bottom of the city's 53 elementary schools in the reading testing program. There was, however, a natural handicap here: The intelligence and mental ages of this school's boys and girls were also below city-wide averages. Nevertheless, Dr. Cabot embarked upon a campaign to raise the literacy rate.

In the spring of 1954, he journeyed to Newcastle, Pa., to visit an old friend, Glenn McCracken. Now an A-V director and formerly a principal in that community, McCracken had developed a filmstrip system for teaching illiterate soldiers and later tried it out in his school.

Dr. Cabot was impressed. He went home and, with the help of a few experimentally-minded teachers, devised his own filmstrips. By September, he was ready to introduce the method on a trial basis in two classes.

The trial is now over. Today, tests indicate that Eighteenth Avenue School's 3rd graders are now reading slightly above Newark's norm. Also today, the 19 primary classes of the school (almost 600 pupils) are now being taught reading by the new procedure.

In this case, as always, the corollary to pupil learning has been teacher training. "As new teachers were introduced to the new approach," reports Dr. Cabot, "they visited classes and conferred regularly with colleagues already skilled in the method. We still meet to share ideas, to compare techniques, to refine our procedures. As another in-service activity, all teachers help in the development of the mats from which the filmstrips are produced."

Just as important as the orientation to new techniques, adds Dr. Cabot, are the "willingness and ability of the teacher to accept concepts at variance with concepts they learned in college."

"Our experience has shown," he reports, "that some teachers cannot do this. They very soon revert to the traditional approach in fear of doing some damage to the child."

Regarding new instructional devices in general, Dr. Cabot's enthusiasm is measured. "They can certainly be helpful to the teacher and principal," he says, adding: "*—if the child is not lost in the process.*"

From Schenevus, New York... How Technological Creativity Helped Broaden Rural Program

THANKS TO THE technological creativity of one of his teachers, Principal Vincent Ciliberti of Andrew Draper Central School in rural Schenevus, N. Y., is able to offer a broader program of business and vocational subjects to his students.

Three years ago Don Gould of the industrial arts department was presented with a problem. The school wanted to offer a full business ed program. But to do so, classes would have to be doubled up. Did he have any ideas?

He did.

Working with his own students, Mr. Gould designed and his boys constructed as a class project a system of listening stations for independent study. The stations are equipped to receive any kind of audio signal—tape, disc record, radio, dictaphone. A flick of the channel selector gives the listener a choice of three instructional programs with which to work.

Today, in Mary Scott's business education classroom, the entire group of students may be seen wearing headphones. But one group may be learning shorthand dictation via dictaphone program while a second group is receiving exercise in business math or typing by means of the teacher's previously recorded instructions. Meanwhile, Mrs. Scott is free to give special help to individual students.

Mr. Gould, too, has adapted the system for his own "tripled up" class of mechanical drawing I and III and mechanics I.

The Schenevus school's problem of scheduling a broader program is not, of course, unusual. Traditionally, principals of rural schools have been limited—by limited enrollments and limited funds—to draw up as wide a curriculum as their city and suburban colleagues are able to do. Today, Draper Central and almost a score of other rural schools of the Catskill Area Project are overcoming this handicap by establishing multiple classes of the type we have mentioned. Electronic aids, in turn, see to it that the instruction does not take a long step backward to the "good old" one-room school days. In fact, say the Catskill area's multiple class advocates, the trend—at least for rural schools—is a long step ahead.

"Electronic equipment," says Don Gould, "allows us to put our trained talent to more efficient and effective use. Individual needs can be met effectively. Recordings, for example, impart information for us while we are free for the refinement of learning. Then, too, a suitable collection of discs and tapes allows us to repeat lessons, to enrich our classes and to speed ahead, when the time is ripe, to more advanced lessons."

Principals wishing more information about multiple classes and how new materials can contribute to their success should address inquiries directly to Don Gould at Draper Central School, Schenevus, N. Y.

We recommend...

One challenging "think" piece for your faculty reading room...

- "The Remarking of American Education" by Charles E. Silberman, *Fortune*, April, 1961.

Two fine special issues on the leadership role of principals...

- *Educational Leadership*, February 1961. Theme: "Teaching Methods and Devices."
- *The National Elementary Principal*, January, 1961. Theme: "Audio-Visual Instruction."

Three valuable new references...

- *Instructional Materials for Teaching Audiovisual Courses*, an annotated list of all kinds of aids from motion pictures to slidesets to tapes. Syracuse University Press, Box 87, University Station, Syracuse 10, N.Y. Price: 60¢.
- *A Catalog of Tapes for Teaching*, Audio Visual Center, Kent Ohio. Free.
- *Visucom*, a periodical "idea book" for the instructional use of overhead projectors. Technifax Corporation, Holyoke, Mass. Free.

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